

### Vesico-ureteric reflux: An unusual cause of urinoma after total nephrectomy

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#### Abstract

Most urinomas are known to occur after partial or nephron sparing nephrectomy. We report a case of a 52 year old female with a large chronic post-nephrectomy urinoma due to leakage from the ureter due to vesico-ureteric reflux (VUR).

#### Case Report

A 52 year old female who had undergone a left sided total nephrectomy for a non-functioning kidney due to a stag horn calculus 18 months ago presented with persistent dull pain in her left iliac and lumbar region that began one month after surgery. The patient had noticed the swelling gradually increasing in size over the past month. Physical examination revealed a large, tender, tense cystic lump in the left iliac fossa extending upto the lumbar and hypochondrial regions, and medially upto the umbilicus. Ultrasonography (USG) and contrast enhanced CT scan (CECT) showed a 12 × 9cm size, multi-locular collection with multiple septations in the left iliac fossa and pelvis. USG guided aspiration drained 1400 ml of urine like fluid. The swelling refilled within the next two days, and an USG guided 10 Fr percutaneous nephrostomy tube was placed in the cavity which drained 700 ml of urine per day. As CECT failed to delineate the site of the leak, a micturating cystourethrogram (MCU) was done. The MCU showed a leak from a dilated left ureteric stump (Figure 1). Laparotomy was undertaken with an oblique



Figure 1: MCU showing hugely dilated left ureter

flank incision and the dilated ureter was dissected out, divided close to the vesicoureteric junction, and repaired using continuous interlocking sutures of 2-0 polyglactine. A tube drain was left in situ. (Figure 2). The drain became dry on the fifth post operative day and the patient was sent home with a per-urethral Foley's catheter in situ which was removed after three weeks.

#### Discussion

A urinoma is a cyst formed by extravasation of urine from any part of the urinary tract; i.e., via the kidney, ureter, urinary bladder or the urethra. It may vary in its presentation according to the aetiology, point of extravasation, and duration [1]. Three essential factors are required for the formation of a urinoma: a

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Figure 2: Repair of ureteric opening

functioning renal unit, breach in the pelvicalyceal system, and distal obstruction [2]. It is generally associated with trauma to the kidney or collecting system. Unlike renal urine leaks, leaks from the ureter most commonly occur as a result of iatrogenic injury following genitourinary, retroperitoneal, pelvic or gynaecological surgery.

The treatment of a urinoma requires prompt diagnosis with delineation of the cause so as to prevent complications such as urinary peritonitis, parapelvic urine granuloma, periureteral fibrosis, abscess formation, and sepsis[3]. Once the underlying obstruction is relieved, most urinomas are expected to resolve spontaneously. Percutaneous drainage,

endoscopic ureteric stent placement and application of glue to the leaking site are accepted management strategies for persistent urinary leaks [4].

Urinomas are mostly noted after partial or nephron sparing nephrectomies or rarely from residual renal tissue following a nephrectomy [5]. Formation of a urinoma from a leaking ureteric stump following total nephrectomy due to VUR has not been previously reported in the literature. Proper attention to the lower end of the ureter would have prevented this rare complication.

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### Key learning points

- Evaluation of the entire upper urinary tract is important prior to decision making in a non functioning kidney
- Proper attention to the distal end of the divided ureter during nephrectomy is essential to prevent complications.

### Editorial note

The authors highlight an important step in total nephrectomy which is ligation of the distal end of the divided ureter, especially to prevent bleeding. An alternative conservative measure which could have been attempted is percutaneous

drainage with prolonged urethral catheterisation for self sealing of the ureteric stump.

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#### **Answers to images in surgery (page 35 - Quiz 1)**

1. Selective angiogram of the Gastro duodenal artery (GDA)
2. 1. Hepatic artery
  2. Common hepatic artery
  3. Gastro-duodenal artery
3. Pseudo aneurysm arising from the GDA
4. Endovascular Embolisation of the GDA, proximal and distal to the aneurysm using coils and Glue.

#### **Answers to images in surgery (Page 35 - Quiz 2)**

Ankyloglossia, also known as tongue-tie, is a congenital oral anomaly characterized by restriction of movement of the tip of the tongue which cannot be protruded beyond the lower incisor teeth. It is due to an abnormally short and tight lingual frenulum. It varies in degree, from a mild form to a severe form in which the tongue is completely tethered to the floor of the mouth. The exact cause is not known but genetic propensity is hypothesized as it runs in family [1]

Many tongue-ties are asymptomatic but can effect feeding and speech. Breastfeeding difficulties arise as a result of the inability to create and maintain effective suction leading to improper feed and poor infant weight gain. Tongue tie leads to difficulty in articulation and also leads to compensation depending on the degree of severity. [2] Treatment varies from non-operative management to surgery. Surgery involves dividing the tissue under the tongue, it is called as frenulotomy. If it is plastered to the floor of mouth a surgical reconstruction procedure called a Z- plasty closure is done. Bleeding and infection are post-operative complications.[3]

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